

WHAT IS CLAIMED IS:

1. A method for encoding a stream of data blocks using a scalable encoder, the method comprising the steps of:

5 receiving a stream of data blocks;
storing said received data blocks in a buffer;
encoding a first sequence of said stored data blocks from said buffer to produce a first encoded data block;
monitoring the fullness level of said buffer for comparison with a predetermined
10 threshold range; and,
adjusting the complexity of said encoder based on said comparison outcome.

2. The method of claim 1, wherein the step of adjusting the complexity of said encoder based on said comparison outcome comprises the steps of:

15 decreasing the complexity of said encoder when the fullness level of said buffer exceeds an upper range of said threshold limit; and,
encoding a second data block at said decreased complexity to produce a second encoded data block.

20 3. The method of claim 2, wherein the step of decreasing the complexity of said encoder is performed according to a predetermined encoding configuration table.

4. The method of claim 1, wherein the step of adjusting the complexity of said encoder based on said comparison outcome comprises the steps of:

increasing the complexity of said encoder when the fullness level of said buffer is below a lower level of said predetermined threshold range; and,

5 encoding a second data block at said increased complexity to produce a second encoded data block.

5. The method of claim 4, wherein the step of increasing the complexity of said encoder is performed according to a predetermined encoding configuration table.

6. The method of claim 1, wherein the step of adjusting the complexity of said encoder based on said comparison outcome comprises the step of maintaining the complexity of said encoder when the fullness level of said buffer falls within said predetermined threshold range.

7. The method of claim 1, further comprising the step of storing said first encoded data blocks in a memory medium for subsequent retrieval.

8. The method of claim 1, wherein the stream of data blocks comprise a stream
20 of video frames.

9. A method for encoding a stream of data blocks using a scalable encoder, the method comprises the steps of:

temporarily storing the stream of said data blocks in a buffer;
retrieving a first sequence of said stored data blocks from said buffer;

5 encoding the first sequence of said stored data blocks from said buffer to produce a first encoded data block;

monitoring the fullness level of said buffer;

comparing the fullness level of said buffer to a predetermined threshold range;

10 increasing the complexity of said encoder when the fullness level of said buffer is below a lower level of said predetermined threshold range; and,

decreasing the complexity of said encoder when the fullness level of said buffer is below an upper level of said predetermined threshold range.

10. The method of claim 9, further comprising the step of encoding a second
15 data block at said increased complexity to produce a second encoded data block.

11. The method of claim 9, wherein the steps of increasing and decreasing the complexity of said encoder is performed according to a predetermined encoding configuration table.

20 12. The method of claim 9, further comprising the step of encoding a second data block at said decreased complexity to produce a second encoded data block.

13. The method of claim 9, further comprising the step of maintaining the complexity of said encoder when the fullness level of said buffer falls within said predetermined threshold range.

5 14. The method of claim 9, further comprising the step of storing said first encoded data blocks in a memory medium for subsequent retrieval.

10 15. The method of claim 9, wherein the stream of data blocks comprises a stream of video frames.

16. The method of claim 9, wherein the fullness level of said buffer is determined based on an input rate of the stream of said data blocks and processing feedback information from said encoder after producing said first encoded data block.

15 17. An encoding system for encoding a stream of data blocks, comprising:
an analog-to-digital converter for converting analog signals from a plurality of sources into digital signals;
a buffer for receiving said converted digital signals at a predefined rate;
a memory for storing a predetermined encoding table;
20 an encoder for encoding the stream of data blocks stored in said buffer;
a management module, operatively coupled to said buffer, said encoder, and said memory, wherein said management module is operable to: (a) receive the stream of said

data blocks; (b) store said received data blocks in said buffer; (c) cause to encode a first sequence of said stored data blocks from said buffer to produce a first encoded data block; (d) monitor the fullness level of said buffer for comparison with a predetermined threshold range; (e) cause to adjust the complexity of said encoder based on said comparison outcome and said predetermined encoding table; and, (f) cause to encode a second data block at said adjusted complexity to produce a second encoded data block.

18. The system of claim 17, wherein said management module is further operable to decrease the complexity of said encoder when the fullness level of said buffer exceeds an upper range of said threshold limit.

19. The system of claim 17, wherein said management module is further operable to increase the complexity of said encoder when the fullness level of said buffer is below a lower level of said predetermined threshold range.

20. The system of claim 17, wherein said management module is further operable to maintain the complexity of said encoder when the fullness level of said buffer falls within said predetermined threshold range.

21. The system of claim 17, wherein the stream of data blocks comprise a stream of video frames.